AMENDMENTS TO THE SPECIFICATION

IN THE SPECIFICATION:

Page 20

Please amended the Specification on page 20 beginning at line continuing onto page 21 as follows:

Thereafter, the parity-check-matrix generating unit 10 divides rows and columns of the reduced matrix A'(s=5, R(3)) based on the order allocation shown in Fig. 9 and sets a result of the division as a parity check matrix $H_{R(3)}$' with 2000 rows × 5000 columns. Moreover, the parity-check-matrix generating unit 10 permutes the columns to arrange weights of the columns of the parity check matrix $H_{R(3)}$' after division in ~~an ascending order~~ a descending order and sets a matrix after permutation as a parity check matrix $H_{R(3)}$. Fig. 10 is a diagram of the parity check matrix $H_{R(3)}$. There are 1000 rows with a weight "7", 1000 rows with a weight "8", 279 columns with a weight "2", 4442 columns with a weight "3", and 279 columns with a weight "4".

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Please amend the Specification on page 23 beginning at line 16 as follow:

Thereafter, the parity-check-matrix generating unit 10 divides columns of the reduced matrix A'(s=5, R(2)) based on the order allocation shown in Fig. 11 and sets a result of the division as a provisional additional matrix $A_{R(2)}$' with 1000 rows × 5000 columns. Moreover, the parity-check-matrix generating unit 10 permutes the columns to arrange weights of the columns of the provisional additional matrix $A_{R(2)}$' after division in ~~an ascending order~~ a descending order and sets a matrix after permutation as a formal additional matrix $A_{R(2)}$. Fig. 12 is a diagram of the additional matrix $A_{R(2)}$. There are 1000 rows with a weight "3", 150 rows with a weight "1", 6 columns with a weight "2", and 946 columns with a weight "3". Fig. 13 is a diagram of a parity check matrix $H_{R(2)}$.

MKM/smt